

Real length of observed path	...	...	...	45 miles
Velocity	...	...	...	22 miles per second
Radiant point	...	...	...	$58^{\circ} + 22^{\circ}$
Direction of flight	...	...	...	East to west
Inclination of descent	...	...	...	$26^{\circ}$

Very large meteors from *Taurus* are often seen in November, especially during the first week of that month and between the 20th and 23rd. Fireballs appeared in 1865 and 1884, on November 21, and in 1891, on November 22, several brilliant Taurids were visible in the evening sky, and "at Ramsgate were supposed to be rockets fired by the North Sandshead lightship. The life-boat at once put to sea. A heavy fog prevailed, and it was thought that a vessel had stranded on the Goodwin Sands, but on returning the coxwain reported that the lightship men had only observed two meteorites falling." In 1877 on November 23 two brilliant Taurids were seen. The radiant is at about  $63^{\circ} + 22^{\circ}$ , and I determined it from ordinary shower-meteors in three years as follows:—

		Meteors
1876 November 20	$62^{\circ} + 22^{\circ}$	11
1880 November 27	$63^{\circ} + 21^{\circ}$	8
1886 November 29–December 1	$64^{\circ} + 23^{\circ}$	6

Earlier in November the radiant appears to be a few degrees west of this. In 1896 on November 2 I witnessed a shower of 17 Taurids from  $55^{\circ} - 9^{\circ}$ , which is fully  $15^{\circ}$  S.S.W. of the position of the radiant in the last ten days of November.

*Bristol 1896 March 5.*

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*Note on a Curious Light (the Zodiacal Light?) as seen at Oxford, 1896 March 4.* By H. H. Turner, M.A., B.Sc., Savilian Professor.

The evening of 1896 March 4 was brilliantly fine at times. After observing the transit of 6 *Canceri* (R.A.  $7^{\text{h}} 57^{\text{m}}$ ), Mr. F. A. Bellamy, assistant in the University Observatory, went out to look at the sky, and his attention was immediately caught by what seemed to be the tail of a very bright comet in the west. He had often observed the zodiacal light in Oxford, but this appearance struck him as quite unfamiliar. He promptly brought out a 3-inch telescope to examine the object, but detected nothing definite; the faint stars showed distinctly through the light. After a minute or two he concluded that it must be an extraordinary apparition of the zodiacal light, which conclusion was confirmed by the position of the object, the direction passing nearly through the *Pleiades*, and the highest point being at an altitude of about  $12^{\circ}$ . He came up to the transit room to call my attention to it, and found me observing a transit of *Jupiter* (R.A.  $8^{\text{h}} 9^{\text{m}}$ ). After this was concluded we went together to look at the phenomenon, but the light had then

become much fainter, though still brighter than Mr. Bellamy remembered to have ever seen the zodiacal light. It was fading rapidly, and within a few minutes was no longer very noticeable. The above transits fix the times with considerable accuracy as follows :—

					h	m	
Light first seen	...	...	...	...	9	14	G.M.T.
Much fainter...	...	...	...	...	9	26	„
So faint as not to be noticeable	...	...	...	...	9	30	..

These times seem quite inconsistent with the idea of the light disappearing by *setting* rather than by *fading*; and, though there were thin streaks of cloud near the horizon, these did not seem to cause the disappearance. There was no motion apparent.

An intermittent watch was kept on the sky till after midnight, but the light was not again noticed, though auroral light and streamers were seen in the north. It is quite possible that the light seen in the west was an auroral display. The evening was more cloudy later.

Besides the extraordinary brilliancy of the light the concentration of it along the axis of the cone (assuming it to be really the zodiacal light) was remarkable, suggesting at first nothing so much as the tail of a comet as bright as that of 1882. The width was estimated by Mr. Bellamy at barely  $1^\circ$  (two diameters of the Moon), and though I did not see it at its brightest my impression would accord with this. The edges were comparatively well defined, and did not present the gradual fading off usually seen in the zodiacal light. It may be remarked that there is some glare from gas lamps in that quarter of the sky as seen from the University Observatory, and much more now than in past years.

On March 5 Sir W. J. Herschel, who had also seen the light at Littlemore, about  $2\frac{1}{2}$  miles away, came over to Oxford to make inquiries. He had independently taken the light for the tail of a comet—a fact which gives perhaps the best idea of its appearance.

Sir W. J. Herschel had independently written out his observations in a short note, which I here add *in extenso*.

“*The Zodiacal Light—or is it not a Comet?*”

“I have never seen the zodiacal light in England decidedly well. I have seen it elsewhere often enough to know its appearance, and it has always been a fairly evenly distributed light over a large area, fainter of course at the edges, and rather brighter towards the base centre, but not at all strikingly so. I have also seen fine comets. It seems almost impossible to compare such a comet in the open sky with what I know of the appearance of the zodiacal light.

“At 7.35 I left Mr. Sankey’s door to walk home: it faces north-westerly. I noticed light in the sky, studied it, and concluded that it must, by its inclination and limits, reaching up nearly to the *Pleiades*, be the upper part of the zodiacal light.